

TRACHYPOGON MAYAËNSIS (POACEAE:
ANDROPOGONEAE): A NEW SPECIES
FROM BELIZE

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ABSTRACT

Trachypogon mayaënsis, a new species from the Maya Mountains in Belize, is described and illustrated. A key is provided to separate it from other species in Central America. *Trachypogon mayaënsis* is readily distinguished from other Central American species by its annual life cycle, height, leaf blade length and width, and prominent and conspicuous sheath auricles/ligules, that can reach to 6 cm in length.

RESUMEN

Se describe y ilustra una especie nueva, *Trachypogon mayaënsis*, de las montañas Maya de Belize. Se presenta una clave para separarla de las otras especies Centro-americanas. *T. mayaënsis* se distingue fácilmente de otras especies Centro-americanas por su ciclo de vida anual, altura, longitud y anchura de las láminas foliares, sus lígulas con aurículas prominentes y conspicuas, y que pueden llegar hasta 6 cm de largo.

Trachypogon, a genus of approximately six species, is found in tropical and subtropical America and Africa (Dávila 1994). Two species are found in Central America: *T. spicatus* (C. von Linné) K.E.O. Kuntze and *T. vestitus* N. Andersson. *Trachypogon spicatus* [syns. = *T. montufari* (K. Kunth) C. Nees von Esenbeck; *Trachypogon palmeri* Nash; *T. plumosus* (F. von Humboldt & A. Bonpland ex C. von Willdenow) C. Nees von Esenbeck; and *T. secundus* (J. Presl) F. Lamson-Scribner] is found from southern Texas in the United States to Argentina, and in Africa. *Trachypogon vestitus* is found from Honduras to Brazil. A collection of *Trachypogon* was made in the Maya Mountains in Belize that could not be assigned to any known species and is here described as new.

Trachypogon mayaënsis Wipff & S.D. Jones, sp. nov. (Fig. 1). **TYPUS:** BELIZE.

CAYO DISTRICT: 1.7 mi SE from the entrance gate inside Mountain Pine Ridge (SSW of Belmopan) in the Maya Mountains, disturbed mountain pine forest, associates: *Pinus*, *Andropogon*, *Panicum*, *Axonopus*, *Scleria*, *Diodia*, and *Aristida*; occasional, 19 Jan 1994, S.D. Jones 10489 & R. Oliver (HOLOTYPE: MICH; ISOTYPES: BRCH, MO, US).

Gramen annuum caespitosum, culmis (1.59-)1.95-2.10 m altis; auriculis (3-)4-5(-6) cm longis (auriculæ ligulæ adnatæ); folia laminis (30-)43-61 cm longis; inflorescentia 9-30 cm longa.

Plants (1.59-)1.95-2.10 m tall, robust annual, densely caespitose, erect. *Leaves* cauline (measurements taken from mid-culm leaves); *nodes* ca. 11, appressed pubescent with trichomes to 2 mm long, rooting at lower nodes; *sheaths* with ascending to appressed scattered trichomes or glabrous, when pubescent, trichomes 1.3-5.5 mm long, becoming denser at apex of sheath; *collar* glabrous; *sheath auricles* (3-)4-5(-6) cm long, erect and adnate to the ligules, appressed pubescent or glabrous; *ligules* (3-)4-5(-6) cm long, membranous, firm, brown, veined, appressed pubescent attenuate, adnate to the sheath auricles; *blades* (30-)43-61 cm long, 6-7.5 mm wide (measurements taken from mid-culm leaves), flat, apically long attenuate and basally long cuneate with the basal portion becoming involute, antrorsely scaberulous on both surfaces, margins antrorsely scabrous. *Inflorescence* 9-30 cm long, a spicate raceme or a panicle with two racemose branches; *central axis* of spicate raceme or the racemose branches (if a panicle) short pubescent, internodes 3-4 mm long (in middle); one pedicellate spikelet terminating spicate raceme or branch. *Spikelets* paired, one (lower spikelet) of each pair short pedicellate, persistent, awnless, staminate, dorsally compressed; other spikelet (upper spikelet) of pair, longer-pedicellate, deciduous, perfect-flowered, awned, nearly terete. Florets without paleas. **LOWER (SHORT PEDICELLED) SPIKELETS:** staminate, sometimes with a vestigial ovary present; the lower spikelet either absent or rudimentary in the lowest 4-5 pairs of spikelets in the inflorescence or racemose branch. *Pedicels* 1-2 mm long, pubescent. *Spikelets* 6.5-7.6 mm long, 1-1.6 mm wide, pubescent; *first glumes* 6.5-7.6 mm long, 1-1.6 mm wide, 9-11-veined, coriaceous, partially enclosing rest of spikelet, narrowly elliptic, sparsely to densely short pubescent, keeled, the keels strigose-ciliate, apex bifid, the teeth 0.2-0.3 mm long; *second glumes* 6.5-7.6 mm long, ca. 1.4 mm wide, 3-veined, narrowly elliptic, the margins overlapping, ciliate; *Lower Floret: lemmas* 5.2-5.5 mm long; 0-veined, hyaline, ciliate on margins; *paleas* absent. *Upper Floret: lemmas* 4.7-4.9 mm long; 3-veined, hyaline, ciliate on upper margins; *paleas* absent. **UPPER (LONG PEDICELLED) SPIKELETS:** perfect flowered, awned. *Pedicels* 2.5-3.1 mm long, pubescent. *Spikelets* (including callus) 9.5-10.6 mm long, 1-1.4 mm wide, pubescent; *callus*, at base of spikelet, 1.8-2.0 mm long, pubescent with trichomes to 3.0 mm long; *first glumes* 7.5-8.5 mm long, 1-1.4 wide,



FIG. 1. *Trachypogon mayaënsis* [S.D. Jones 10489 & R. Oliver (BRCH)]. A. Habit (bar equals 5 cm). B. Section of culm showing the auricle/ligule (bar equals 1 cm).

9–11-veined, coriaceous, margins involute and partially enclosing rest of spikelet, elliptic, densely short pubescent throughout, lateral veins near apex strigulose, apex rounded and ciliolate; *second glumes* 7.7–8.9 mm long, 0.9–1.3 mm wide, 3-veined, coriaceous, narrowly elliptic, sparsely pubescent between veins; upper margins overlapping and ciliate, apex broadly acute and ciliate; *Lower Floret*: neuter (i.e. without reproductive structures); *lemmas* 6.5–7.3 mm long, 1.1–1.2 mm wide, 2-veined, hyaline, ciliate on upper margins, apex truncate and ciliate; *paleas* absent. *Upper Floret*: perfect; *lemmas* 6–6.9 mm long, 0.7–1.0 mm wide; glabrous, the lower 1/3 is 3-veined, hyaline and easily tearing, the upper 2/3 is 0-veined, subcoriaceous to coriaceous and flattened, turning into a terete awn; *awn* 38–50.5 mm long, twice geniculate, pubescent from base to second bend; *paleas* absent. *Stamens* 3, anthers ca. 3.8 mm long, 1–1.1 mm wide. *Chromosome number* unknown.

Etymology.—The specific epithet refers to the Maya Mountain Range in Belize.

Phenology.—November–February.

Distribution.—Known from the Maya Mountains in the Cayo District of Belize and from the state of Oaxaca in México.

Additional specimens examined: BELIZE. CAYO DISTRICT: Rio Privacion, Mountain Pine Ridge, 26 Feb 1931, H.H. Bartlett 11785 (MICH). MÉXICO. OAXACA: District of Tuxtepec; Chiltepec and vicinity, alt. ca. 200 m, 15 Nov 1941, G. Martínez Calderón 812 (MICH).

KEY TO THE SPECIES OF *TRACHYPOGON* IN CENTRAL AMERICA

(Modified from Dávila 1994)

1. Plants robust annuals, 1.6–2.10 m tall; auricles/ligules (3–)4–6 cm long; leaf blades (30–)43–61 cm long, 6–7.5 mm wide *T. mayaënsis*
1. Plants perennial, less than 1.5 m tall; auricles/ligules 2(–5) cm long or less; leaf blades less than 30 cm long, 1–5 mm wide 2
2. Plants glabrous or rarely with basal sheath sparsely pubescent; inflorescence a spicate raceme, rarely a panicle with two racemose branches *T. spicatus*
2. Plants with sheaths and blades conspicuously pubescent; inflorescence a panicle with 3 (rarely 2) racemose branches or rarely a spicate raceme *T. vestitus*

The closest relative of *Trachypogon mayaënsis* is probably *T. spicatus*, from which it differs by the characters given in the above key; *Trachypogon palmeri* Nash (= *T. spicatus*) is the name given to longer liguled forms of *T. spicatus* in Mexico. There is also a taxon in Brazil with long ligules, *T. macroglossus* Trinius, but this taxon is perennial with very narrow, involute leaf blades.

Seeds of *T. mayaënsis* were planted in the greenhouse, of the five plants to germinate, only one survived the transplanting to a larger container. Once the plant flowered, it began to branch at the lower aerial nodes (typical of annuals), but eventually the entire plant died and there were no new tillers produced from rootstock. This was also observed in the field. The original

material was collected in November 1994, but when we returned to the same site in June 1995, there was no sign of this taxon, though the other associated perennial grasses were still present.

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